

LIBRARY USE ONLY

UNIVERSITY OF HAWAII LIBRARY

# MADROÑO

A WEST AMERICAN JOURNAL OF BOTANY

VOLUME XXI

1971-1972

## BOARD OF EDITORS

Class of:

- 1971—MARION OWNBEY, Washington State University, Pullman  
JOHN F. DAVIDSON, University of Nebraska, Lincoln
- 1972—IRA L. WIGGINS, Stanford University, Stanford, California  
REED C. ROLLINS, Harvard University, Cambridge, Massachusetts
- 1973—MICHAEL G. BARBOUR, University of California, Davis  
ROY L. TAYLOR, University of British Columbia, Vancouver
- 1974—KENTON L. CHAMBERS, Oregon State University, Corvallis  
WILLIAM A. WEBER, University of Colorado, Boulder
- 1975—ARTURO GÓMEZ-POMPA, Universidad Nacional Autónoma de México  
DUNCAN M. PORTER, Missouri Botanical Garden, St. Louis
- 1976—DENNIS ANDERSON, Humboldt State College, Arcata, California  
KINGSLEY R. STERN, Cllico State College, Chico, California
- 1977—DALE M. SMITH, University of California, Santa Barbara  
WILLIAM LOUIS CULBERSON, Duke University, Durham, North Carolina

Editor—ROBERT ORNDUFF

Managing Editor—JOHN L. STROTHER

Department of Botany, University of California, Berkeley 94720

Published quarterly by the  
California Botanical Society, Inc.

Life Sciences Building, University of California, Berkeley 94720

Printed by Gillick Printing, Inc., Berkeley, California 94710



The California Botanical Society dedicates volume 21 of *Madroño* to WALLACE ROY ERNST, former member of the Board of Editors and at heart a western botanist. His careful studies of the floral morphology of the Papaveraceae reflect original and fresh interpretations of the relationships among the genera of this difficult and complex family. In the Loasaceae and the genus *Lamourouxia* (Scrophulariaceae) his correlations of variation patterns in floral morphology with different pollination mechanisms represent a novel and pioneering effort in explaining the adaptive significance of these morphological patterns. The importance of his work in these and other groups lies not only in the solutions he offered to perplexing systematic and biological problems, but also in providing models of a broad and eclectic methodology and of a rigor of interpretation. His wide store of knowledge extended to a diversity of wild and cultivated plants and was available freely to colleagues and students. His pervasive love of plants was reflected in many ways, including a strong interest in gardening. Whenever the opportunity was available he exhibited a remarkable horticultural expertise and a highly refined aesthetic sense. Though a native Californian and one who loved the "wide open spaces" of California, Wally took a great pride in Washington, D.C. He delighted in showing the city and its numerous sights to visiting botanists from all parts of the world. His favorite tour was one of the city at night, including unusual perspectives of illuminated monuments and fountains—a memorable experience indeed. In many respects, he functioned as an unofficial host for the Department of Botany at the Smithsonian Institution and frequently entertained visiting botanists in his home. Wally's sense of perfection and his highly critical intellect were evident in every task he undertook, botanical or otherwise, and these qualities were particularly evident in the careful and meticulous critiques of manuscripts that he reviewed for others. Those who knew Wally Ernst miss him.



# TABLE OF CONTENTS

ALAM, M. T. (See McArthur et al.) . . . . .	417
BAKER, HERBERT G., A fen on the northern California coast . . . . .	405
BAKER, WILLIAM H., Noteworthy records of western plants . . . . .	199
BARBOUR, M. G., Additions and corrections to the flora of Bodega Head, California . . . . .	446
BARLOW, BRYAN (See Helton et al.) . . . . .	526
BEATTIE, ANDREW J., Itinerant pollinators in a forest . . . . .	120
BEAUCHAMP, R. MITCHEL, New locality for <i>Lavatera venosa</i> S. Wats. (Malvaceae) . . . . .	404
BENEDICT, ROBERT G. (See Largent, David L.) . . . . .	32
BONAR, LEE, A new <i>Mycocalicium</i> on scarred <i>Sequoia</i> in California . . . . .	62
BRIGGS, BARBARA G., Flora of the Australian Capital Territory (review) . . . . .	497
BROWN, ROY C. and CLARK G. SCHAAACK, Two new species of <i>Tragopogon</i> for Arizona . . . . .	304
CHIMAL, AURORA (See Gómez-Pompa et al.) . . . . .	208
CONNER, H. E., A naturalized <i>Cortaderia</i> (Gramineae) in California . . . . .	39
COOKE, WM. BRIDGE, H.E. Brown and the plants of the "North side of Mount Shasta" . . . . .	487
COULTER, MALCOLM, A flora of the Farallon Islands, California . . . . .	131
CRAWFORD, DANIEL J., Morphology, chromosome number, and flavonoid chemistry of <i>Bidens cordylocarpa</i> (Compositae) . . . . .	41
CRUDEN, ROBERT W., Information on chemistry and pollination biology relevant to the systematics of <i>Nemophila menziesii</i> (Hydrophyllaceae) . . . . .	505
CRUM, HOWARD, Mosses of unusual interest from Baja California . . . . .	403
CURTIS, DWAYNE H., A preliminary report of the myxomycetes from the state of Idaho . . . . .	540
CURTIS, DWAYNE H., Myxomycetes new to Crater Lake National Park, Oregon. I . . . . .	10
DALY, HOWELL V., L. H. Shinnners' collection of anthophilous Hymenoptera deposited in Dallas Museum of Natural History . . . . .	515
DEDECKER, MARY (See Wiens, Delbert) . . . . .	395
DELGADILLO M., CLAUDIO and DALE H. VITT, New moss records from Mexico . . . . .	99
DEMPSTER, LAURAMAY T. and G. LEDYARD STEBBINS, The <i>Galium angustifolium</i> complex (Rubiaceae) of California and Baja California . . . . .	70
DUNN, E. L. (See Mooney et al.) . . . . .	305
EDIGER, ROBERT and NICK SANTAMARIA, <i>Ratibida columnifera</i> (Compositae) in California . . . . .	12
ELDRIDGE, F. A., II (See McArthur et al.) . . . . .	417
ERNST, WALLACE R., Flora of the Galápagos Islands (review) . . . . .	111
EVERY, A. DAVID and DELBERT WIENS, Triploidy in Utah aspen . . . . .	138
EYERDAM, WALTER J., Botanical collecting rambles with Prof. Eric Hulten in the Aleutian Islands . . . . .	259
FERLATTE, WILLIAM J., <i>Haplopappus lyallii</i> Gray (Compositae), a new record from California . . . . .	535
FROLICH, E. F. (See Wieland et al.) . . . . .	149
FRYXELL, PAUL A., A revision of <i>Phymosia</i> (Malvaceae) . . . . .	153

GANKIN, ROMAN, Nomenclature and interpretation of a California subspecies in <i>Arctostaphylos</i> (Ericaceae) . . . . .	147
GENTRY, JOHNNIE L., JR., A new combination and a new name in <i>Hackelia</i> (Boraginaceae) . . . . .	490
GILLETT, GEORGE W., Annual review of ecology and systematics (review) . . . .	494
GILLETT, JOHN M., Two new species of <i>Trifolium</i> (Leguminosae) from California and Nevada . . . . .	451
GLIESSMAN, STEPHEN R. and CORNELIUS H. MULLER, The phytotoxic potential of bracken, <i>Pteridium aquilinum</i> (L.) Kuhn . . . . .	299
GÓMEZ-POMPA, ARTURO, RAFAEL VILLALOBOS-PIETRINI, and AURORA CHIMAL, Studies in the Agavaceae. I. Chromosome morphology and number of seven species . . . . .	208
GOTTLIEB, L. D., A proposal for classification of the annual species of <i>Stephanomeria</i> (Compositae) . . . . .	463
GUZMÁN, GASTÓN (See Trappe, James M.) . . . . .	128
HAMANN, MARCIA J., New distributional records for Washington plants . . . .	542
HARDHAM, CLARE B. and GORDON H. TRUE, JR., A floristic study of Point Arena, Mendocino County, California . . . . .	499
HARDHAM, CLARE B. and GORDON H. TRUE, JR., <i>Malacothrix torreyi</i> (Compositae) in California . . . . .	535
HARDING, JAMES and C. B. MANKINEN, Genetics of <i>Lupinus</i> . III. Evidence for genetic differentiation and colonization in <i>Lupinus succulentus</i> (Fabaceae) . . .	222
HARRISON, A. T. (See Mooney, H. A.) . . . . .	439
HARVEY, H. THOMAS and RONALD J. MASTROGIUSEPPE, Foxtail pine on Sirretta Peak, California . . . . .	152
HECKARD, LAWRENCE R., The biology of parasitic flowering plants (review) . . .	496
HELTON, NANCY, DELBERT WIENS, and BRYAN BARLOW, High polyploidy and the origin of <i>Balsamorhiza macrophylla</i> (Compositae) . . . . .	526
HICKMAN, JAMES C., <i>Arenaria</i> , section <i>Eremogone</i> , (Caryophyllaceae) in the Pacific Northwest: a key and discussion . . . . .	201
HUGHES, WILLIAM ELFYN, <i>Corallorhiza mertensiana</i> Bong. in Mendocino County . . . . .	267
ISELY, DUANE, Legumes of the U.S. VI. <i>Calliandra</i> , <i>Pithecellobium</i> , <i>Prosopis</i> . .	273
KJELSDEN, CHRIS K., <i>Pleurophycus gardneri</i> Setchell & Saunders, a new alga from northern California . . . . .	416
KOWALSKI, DONALD T., A new name in <i>Licea</i> (Myxomycetes) . . . . .	455
KÜCHLER, A. W., World vegetation types (review) . . . . .	495
KUIJT, JOB, Transfer of <i>Phrygilanthus sonorae</i> to <i>Psittacanthus</i> (Loranthaceae) . . . . .	13
KYHOS, DONALD W., Evidence of different adaptations of flower color variants of <i>Encelia farinosa</i> (Compositae) . . . . .	49
LANG, FRANK A., The <i>Polypodium vulgare</i> complex in the Pacific Northwest . .	235
LARGENT, DAVID L. and ROBERT G. BENEDICT, Studies in the rhodophylloid fungi. I. Generic concepts . . . . .	32
LAYSER, EARLE F., New distributional records for plants in the Pacific Northwest . . . . .	491
LAYSER, EARLE F., Notes on the flora of the Pacific Northwest . . . . .	47
LAYSER, EARLE F. and H. WAYNE PHILLIPS, <i>Cytisus scoparius</i> (L.) Link in north central Idaho . . . . .	486



MANKINEN, C. B. (See Harding, James) . . . . .	222
MASTROGIUSEPPE, RONALD J. (See Harvey, H. Thomas) . . . . .	152
MCARTHUR, E. D., M. T. ALAM, F. A. ELDREDGE, II, W. TAI, and R. K. VICKERY, JR., Chromosome counts in section <i>Simiolus</i> of the genus <i>Mimulus</i> (Scrophulariaceae) IX. Polyploid and aneuploid patterns of evolution . . . . .	417
MCCLEARY, JAMES A., The mosses of the Channel Islands, California . . . . .	435
MOONEY, H. A., E. L. DUNN, FRANCES SHROPSHIRE, and LEO SONG, JR., Land-use history of California and Chile as related to the structure of the sclerophyll scrub vegetations . . . . .	305
MOONEY, H. A. and A. T. HARRISON, The vegetational gradient on the lower slopes of the Sierra San Pedro Martir in northwest Baja California . . . . .	439
MULLER, CORNELIUS H. (See Gliessman, Stephen R.) . . . . .	299
ORNDUFF, ROBERT, A new tetraploid subspecies of <i>Lasthenia</i> (Compositae) from Oregon . . . . .	96
ORNDUFF, ROBERT, Flora of New Zealand (review) . . . . .	450
ORNDUFF, ROBERT, Systematic studies of Limnanthaceae . . . . .	103
ORNDUFF, ROBERT, Wild flowers of the United States (review) . . . . .	492
PACKARD, PATRICIA L., <i>Pinus ponderosa</i> in Malheur County, Oregon . . . . .	298
PARNELL, DENNIS R., Plant speciation (review) . . . . .	130
PARSONS, DAVID J., The southern extensions of <i>Tsuga mertensiana</i> (mountain hemlock) in the Sierra Nevada . . . . .	536
PHILBRICK, RALPH N., The plants of Santa Barbara Island, California . . . . .	329
PHILLIPS, H. WAYNE (See Layser, Earle F.) . . . . .	486
PHILLIPS, LYLE L., A new <i>Gossypium</i> from Guerrero, Mexico . . . . .	265
PORTER, DUNCAN M., <i>Geranium potentilloides</i> in California . . . . .	449
POWELL, A. MICHAEL, New species of <i>Perityle</i> and <i>Amauria</i> (Compositae) . . . . .	456
POWELL, A. MICHAEL, Taxonomy of <i>Amauria</i> (Compositae-Peritylinae) . . . . .	516
ROY, DOUGLASS F., Fasciation in redwood . . . . .	462
RUNDEL, PHILIP W., An annotated checklist of the groves of <i>Sequoiadendron giganteum</i> in the Sierra Nevada, California . . . . .	319
RZEDOWSKI, J., Manual of the vascular plants of Texas (review) . . . . .	174
SANTAMARIA, NICK (See Ediger, Robert) . . . . .	12
SAUER, JONATHAN D., The dioecious amaranths: a new species name and major range extensions . . . . .	426
SCHAACK, CLARK G. (See Brown, Roy C.) . . . . .	304
SCOTT, FLORA MURRAY, Stellate epidermal hairs, some 10,000 years old . . . . .	458
SHROPSHIRE, FRANCES (See Mooney et al.) . . . . .	305
SMITH, RICHARD H., Xylem monoterpenes of <i>Pinus ponderosa</i> , <i>P. washoensis</i> , and <i>P. jeffreyi</i> in the Warner Mountains of California . . . . .	26
SOLBRIG, OTTO T., Polyphyletic origin of tetraploid populations of <i>Gutierrezia sarothrae</i> (Compositae) . . . . .	20
SONG, LEO, JR. (See Mooney et al.) . . . . .	305
SPELLENBERG, RICHARD, A record from the Klamath Mountains for the Sierran endemic, monotypic genus, <i>Whitneya</i> (Compositae) . . . . .	449
SPELLENBERG, RICHARD, Two species of <i>Panicum</i> (Poaceae) new to Oregon . . . . .	102
STEBBINS, G. LEDYARD (See Dempster, Lauramay T.) . . . . .	70
STEPHENSON, STEPHEN N., A putative <i>Distichlis</i> $\times$ <i>Monanthochloe</i> (Poaceae) hybrid from Baja California, Mexico . . . . .	125

STICKNEY, PETER F., <i>Crupina vulgaris</i> (Compositae: Cynareae), new to Idaho and North America . . . . .	402
SUNDBERG, WALTER J., The genus <i>Chlorophyllum</i> (Lepiotaceae) in California . . . . .	15
TAI, W. (See McArthur et al.) . . . . .	417
THIERS, HARRY D., The savory wild mushroom (review) . . . . .	445
THIERS, HARRY D. and ROY WATLING, Secotiaceous fungi from western United States . . . . .	1
THOMAS, JOHN H., Botanico-Periodicum-Huntianum (review) . . . . .	176
THOMAS, JOHN H., <i>Trifolium hirtum</i> L. (Fabaceae) in California . . . . .	258
THOMAS, JOHN H., Wallace Roy Ernst, 1928-1971 . . . . .	69
TOMB, A. SPENCER, Taxonomy of <i>Chaetadelpha</i> (Compositae: Cichorieae) . . . . .	459
TRAPPE, JAMES M. and GASTÓN GUZMÁN, A newly determined species of <i>Elaphomyces</i> from Oregon . . . . .	128
TRUE, GORDON H., JR. (See Hardham, Clare B.) . . . . .	499, 535
TUCKER, J. M., Hermaphroditic flowers in Californian oaks . . . . .	482
TURNER, B. L., A new species of <i>Dyssodia</i> (Compositae) from north central Mexico . . . . .	421
VICKERY, R. K., JR. (See McArthur et al.) . . . . .	417
VILLALOBOS-PIETRINI, RAFAEL (See Gómez-Pompa et al.) . . . . .	208
VITT, DALE H. (See Delgadillo M., Claudio) . . . . .	99
WALKINGTON, DAVID L., Cacti of the Southwest—Texas, New Mexico, Oklahoma, Arkansas, and Louisiana (review) . . . . .	497
WALLACE, A. (See Wieland et al.) . . . . .	149
WATLING, ROY (See Thiers, Harry D.) . . . . .	1
WEBER, WILLIAM A., <i>Mimulus gemmiparus</i> sp. nov. from Colorado . . . . .	423
WELLS, PHILIP V., The manzanitas of Baja California, including a new species of <i>Arctostaphylos</i> . . . . .	268
WETZEL, CHERIE LALAINÉ RIVERS, The significance of Niles Canyon in the phytogeography of the Coast Ranges of Central California . . . . .	177
WIELAND, P. A. T., E. F. FROLICH, and A. WALLACE, Vegetative propagation of woody shrub species from the northern Mojave and southern Great Basin deserts . . . . .	149
WIENS, DELBERT (See Every, A. David) . . . . .	138
WIENS, DELBERT (See Helton et al.) . . . . .	526
WIENS, DELBERT and MARY DEDECKER, Rare natural hybridization in <i>Phoradendron</i> (Viscaceae) . . . . .	395
WILBUR, ROBERT L., A flora of tropical Florida (review) . . . . .	542
WILKEN, DIETER H., Seasonal dimorphism in <i>Baccharis glutinosa</i> (Compositae) . . . . .	113
WRIGHT, ROBERT D., Local photosynthesis ecotypes in <i>Pinus attenuata</i> as related to altitude . . . . .	254
YOUNGBERG, ALV DAN, The intrageneric position of <i>Salix orestera</i> . . . . .	124

## ERRATA

- p. 70. Second paragraph, third line, should read "... subject *of* the present paper ..."
- p. 71. Map: The small dot under the N of SAN BERNARDINO should be a square.
- p. 423. Line one should read **Mimulus** for **Minulus**.
- p. 455. Line one in Note should read **Licea deplanata** for *Licea deplanata*.

### Dates of publication of Madroño, Volume 21

- |                                 |   |
|---------------------------------|---|
| No. 1, pp. 1-48: 30 Sep 1971    | No. 5, part one, pp. 265-328: 10 Mar 1972 |
| No. 2, pp. 49-112: 9 Nov 1971   | No. 5, part two, pp. 329-393: 25 May 1972 |
| No. 3, pp. 113-176: 17 Feb 1972 | No. 6, pp. 395-450: 15 Jun 1972           |
| No. 4, pp. 177-264: 3 Mar 1972  | No. 7, pp. 451-498: 7 Aug 1972            |
| No. 8, pp. 499-546: 6 Nov 1972  |   |